

**II. Rejection Under 35 U.S.C. § 112**

The Examiner has rejected Claims 20 and 26 under 35 U.S.C. § 112, second paragraph as indefinite. *Office Action*, p. 2. Applicants respectfully traverse this rejection.

With regard to claim 20, the Examiner argues that the limitation "maleic anhydride/C<sub>30</sub>-C<sub>38</sub> α-olefin/alkyl maleate" is indefinite because "[i]t is unclear whether the hydrocarbon chain is part of the maleic anhydride or part of alkyl maleate." *Id.* Applicants disagree.

During examination of claims for compliance with the definiteness requirement of 35 U.S.C. § 112, ¶ 2, an Examiner must determine "whether the claims set out and circumscribe a particular subject matter with a reasonable degree of clarity and particularity." M.P.E.P. § 2173.02. In so doing, the Examiner must examine the definiteness of a claim in light of, among other factors, the content of the particular application disclosure. *Id.* Thus, if the language of the claims, read in light of the application's disclosure, can reasonably apprise one of ordinary skill in the art of the scope of the claimed invention, any rejection under 35 U.S.C. § 112, ¶ 2 is improper. *Id.*

In this case, Applicants respectfully submit that the Examiner has failed to closely examine the language of Claim 20 in view of the specification. Indeed, the present specification states that "[a]nionic thickening polymers comprising at least one fatty chain can also be chosen from ... terpolymers formed from maleic anhydride/C<sub>30</sub>-C<sub>38</sub> α-olefin/alkyl maleate . . . ." Page 11, lines 5-7. Thus, contrary to the Examiner's

contention, this limitation does not require that the hydrocarbon chain be either part of maleic anhydride or part of alkyl maleate. Instead, it specifies that maleic anhydride/C<sub>30</sub>-C<sub>38</sub>  $\alpha$ -olefin/alkyl maleate are each monomer units that form a terpolymer. Thus, Applicants respectfully request that the Examiner withdraw this rejection.

Similarly, the Examiner's rejection of claim 26 is also improper. In the Office Action, the Examiner contends that Claim 26 is indefinite because the claim recites the term "tri-block form." The term "tri-block," however, is well-known by those of ordinary skill in the art. The term "block polymer" means a copolymer where two or more like monomer units are joined on a chain. MCGRAW-HILL DICTIONARY OF CHEMISTRY at 49 (Sybil Parker ed. 1997). It logically follows that the term "tri-block" defines a polymer chain formed by three monomer units.

The specification confirms this meaning. It states that a "tri-block copolymer", may comprise, for example, "hydrophobic sequences at the end of the chain ... [and a] hydrophilic central sequence. . . ." *Specification*, page 14, lines 14-15. Thus, the claim read in light of the specification reasonably apprises one of ordinary skill of the scope of Claim 26. Accordingly, Applicants respectfully request that this rejection be withdrawn as well.

### **III. Rejections Under 35 U.S.C. § 103(a)**

As every Examiner is well-aware, the Examiner carries the initial burden of establishing a prima facie case of obviousness under § 103(a). In so doing, the Examiner must demonstrate that certain criteria have been met. Particularly, the Examiner must point to some suggestion or motivation, either in the references

themselves or in the knowledge generally available to one of ordinary skill in the art, to combine reference teachings. M.P.E.P. § 2143. Further, the Examiner must provide evidence of reasonable expectation of success in the proposed combination or modification. *Id.* In this case, Applicants respectfully submit that the Examiner has failed to satisfy these requirements for each § 103(a) rejection.

**A. U.S. Patent No. 5,984,975 to *Lagrange et al.* in view of U.S. Patent No. 5,976,195 to *de la Mettrie et al.***

The Examiner has rejected claims 1-16, 20-52, and 54-88 under U.S.C. § 103(a) as unpatentable over U.S. Patent No. 5,984,975 to *Lagrange et al.* ("*Lagrange*") in view of U.S. Patent No. 5,976,195 to *de la Mettrie et al.* ("*de la Mettrie '195*") for the reasons set forth on pp. 3-5 of the Office Action. Applicants respectfully traverse this rejection for the reasons below.

According to the Examiner, *Lagrange* teaches hair dyeing compositions comprising oxidation dyes, thickening agents, and fatty alcohols. *Office Action*, p. 3. The Examiner admits, however, that *Lagrange* fails to teach "thickening polymers having at least one fatty chain as claimed." *Office Action*, p. 4.

To remedy this deficiency, the Examiner relies on the teachings of *de la Mettrie '195*. He alleges that *de la Mettrie '195* teaches "a composition comprising [a] thickening polymer comprising at least one fatty chain," and argues that it would have been obvious to incorporate this polymer into the compositions of *Lagrange*. As discussed below, however, the Examiner fails to satisfy at least two requirements needed to establish a *prima facie* case of obviousness under § 103(a).

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***No Motivation To Combine***

First, the Examiner has failed to point to any teaching in either reference that would have motivated a person skilled in the art to combine the *Lagrange* and *de la Mettrie* references. As discussed above, the Examiner bears the initial burden of establishing a *prima facie* case of obviousness, and the standards for proving such a case are high. The Federal Circuit has required that an examiner perform a “thorough and searching” inquiry based on the objective evidence in the record. *In re Lee*, 277 F.3d 1338, 1343 (Fed. Cir. 2002). Moreover, an examiner must provide “clear and particular” evidence of a teaching, suggestion, or motivation to combine the reference teachings; broad or conclusory statements will not suffice. *In re Dembiczak*, 175 F.3d 994, 999 (Fed. Cir. 1999). The Examiner, however, has provided no such evidence here.

Specifically, the Examiner states merely that one having ordinary skill in the art would be motivated to modify the primary reference by incorporating the thickening polymers . . . taught by [*de la Mettrie* ‘195] . . . because the reference clearly suggests the use of thickening polymers in dyeing composition to obtain more chromatic (more luminous) shades [citing *de la Mettrie* col. 1].” *Office Action*, pp. 4-5. The Examiner, however, relies only on *de la Mettrie* for this motivation and completely ignores the teachings of *Lagrange*, the primary reference. A closer reading of *Lagrange* undermines the Examiner’s argument.

The *Lagrange* reference does not provide any motivation to add the thickening polymers of *de la Mettrie*, in part, because the *Lagrange* inventors focused on solving a

particular problem in the hair dye art. Specifically, these inventors sought to discover oxidation dye precursors "which, when associated with couplers, [would] produce a colour in the hair which [was] satisfactorily resistant to light, washing, inclement weather, perspiration and various treatments that [could] be applied to the hair."

*Lagrange*, col. 1, lines 39-42. The *Lagrange* inventors determined that certain 3-substituted para-aminophenols met these particular requirements. *Id.*, col. 1, lines 16-17.

In contrast, the *de la Mettrie '195* inventors sought to solve another problem. Particularly, they desired an oxidative dye composition that did not run and remained localized so that more luminous and intense dye shades could be produced. *De la Mettrie '195*, col. 1, lines 55-59. Thus, these inventors endeavored to solve entirely different problems in the hair dye art than the *Lagrange* inventors. Given the disclosures of *Lagrange* and *de la Mettrie '195* and the particular nature of the problem being solved in each, it would not have been obvious to add *de la Mettrie's* components to the *Lagrange* compositions.

Moreover, Applicants respectfully submit that the *de la Mettrie '195* reference teaches away from the present invention, further undercutting the Examiner's argument to combine the cited references. "A reference can be said to teach away when ... it suggests [to one of ordinary skill in the art] that the line of development flowing from the reference's disclosure is unlikely to be productive of the result sought by the applicant."

*In re Gurley*, 27 F.3d 551, 553 (Fed. Cir. 1990). To illustrate this teaching away, Applicants draw the Examiner's attention to both column 2 of the *de la Mettrie '195* specification and Comparative Example 2 at column 9.

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The *de la Mettrie* '195 specification discloses that "it is also possible, advantageously, to reduce the consumption of surfactants, or even to dispense with them altogether." *De la Mettrie*, col. 2, lines 22-24 (emphasis added). Thus, it follows that the preferred *de la Mettrie* '195 compositions should not include surfactants, such as the fatty alcohols of *Lagrange*. Indeed, comparative Example 2 confirms this result.

Comparative Example 2 discloses a composition where the "at least one thickening polymer comprising at least one fatty chain" is replaced with two nonionic surfactants, 18 grams of decyl alcohol oxyethylenated with 3.5 mol of ethylene oxide and 12 grams of decyl alcohol oxyethylenated with 5.5 mol of ethylene oxide. *Id.*, col. 9, lines 42-47. The inventors conclude that "[t]he shade using a dye composition according to the invention was more luminous ... than that obtained using [the composition according to [Comparative Example 2]; it is also more intense." *Id.*, col. 9, lines 55-58. This result would lead one of ordinary skill not to combine *de la Mettrie*'s thickening polymer with a composition containing surfactants, such as the fatty alcohols of *Lagrange*, because it suggests that the resulting shade could be less luminous. Thus, the *de la Mettrie* '195 reference teaches away from the Examiner's proposed combination and away from the present invention as well.

***No Reasonable Expectation of Success***

Secondly, in addition to showing no motivation to combine the cited references, Applicants also submit that there is no reasonable expectation of success in the Examiner's proposed combination. M.P.E.P. § 2143.02. The Examiner appears to believe that because *Lagrange* and *de la Mettrie* '195 both disclose thickeners, it would

have been obvious to substitute any known thickener having possible application to hair dyes. This unsubstantiated allegation will not support a § 103(a) rejection, however.

The Examiner must provide a justification why a person of ordinary skill in the art would have had a reasonable expectation of success in making the proposed combination. *Id.* Obviousness is not based on an "obvious to try" or "obvious to experiment" standard. M.P.E.P. § 2145(X)(B). Rather, the prior art must provide some teaching that one of ordinary skill in the art would have had a reasonable expectation of success when combining the proposed references. M.P.E.P. § 2143.02. Neither *Lagrange* nor *de la Mettrie* '195 provide this teaching.

Moreover, the reasonable expectation of success becomes even more critical where the invention involves a high degree of unpredictability, as is the case with the hair dye art. See, e.g., THE SCIENCE OF HAIR CARE, at 271-72 (Charles Zviak ed., 1986). Given this known unpredictability, there would have been no reasonable expectation that combining the thickening polymer of *de la Mettrie* and the oxidation dye and fatty alcohols of *Lagrange* would result in an effective hair dye composition. Without some reasonable expectation of success, the Examiner has not established a *prima facie* case of obviousness under § 103(a). Accordingly, Applicants respectfully request that the Examiner withdraw the rejection.

**B     *Lagrange* in view of *de la Mettrie* '195 and further in view of U.S. Patent No 5,989,295 to *de la Mettrie et al.***

The Examiner has rejected claims 17-19 under 35 U.S.C. § 103(a) as unpatentable over *Lagrange* in view of *de la Mettrie* '195 and further in view of U.S. Patent No. 5,989,295 to *de la Mettrie et al.* ("*de la Mettrie* '295"). Applicants respectfully traverse this rejection for the reasons discussed below.

The Examiner admits that *Lagrange* and *de la Mettrie* '195 fail to teach the presently claimed anionic thickening polymers, particularly those claimed in claims 17-19. Accordingly, to supply this missing disclosure, the Examiner relies on the teachings of *de la Mettrie* '295. The Examiner alleges that it would have been obvious to incorporate *de la Mettrie* '295's anionic polymers in *Lagrange*'s compositions because *de la Mettrie* '295 clearly suggests the use of thickening polymers to obtain more chromatic shades. *Office Action*, p. 6. Applicants respectfully disagree with the Examiner's characterization of the cited references.

Similar to the rejection discussed above, the Examiner relies on the teaching of anionic thickening agents in *de la Mettrie* '295 while completely ignoring the teachings of *Lagrange* and *de la Mettrie* '195 discussed above. Indeed, as noted, the inventors of each patent sought to solve different problems in the hair dye art. *De la Mettrie* '295 itself provides support for Applicants' position that it would not have been obvious to add *de la Mettrie* '295's components to the *Lagrange* compositions. See *de la Mettrie* '295, col. 1, lines 45-57.

Moreover, *de la Mettrie* '295 also teaches away from the proposed combination. Like *de la Mettrie* '195, *de la Mettrie* '295 discloses that its compositions make it "possible to reduce the consumption of surfactants, or even to dispense with them altogether." Col. 2, lines 31-33. It also discloses a comparative example demonstrating that shades using a dye composition according to the invention were more luminous than the shades obtained using surfactants. Col. 11, lines 7-9. Thus, *de la Mettrie* '295 does not even remotely provide the necessary "clear and particular" evidence of a motivation to combine to make the alleged combination.

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Finally, the Applicants contend that the Examiner has set forth no evidence that a reasonable expectation of success would have existed in the proposed combination. Given the unpredictability of the hair dye art, as well as the lack of evidence demonstrating a motivation to combine the teachings of the cited references, Applicants respectfully request that this rejection be withdrawn.

C. **Lagrange in view of de la Mettrie and further in view of U.S. Patent No. 5,538,517 to Samain et al.**

The Examiner has rejected Claim 53 under 35 U.S.C. § 103(a) as unpatentable over *Lagrange* in view of *de la Mettrie* '195 and *de la Mettrie* '295 and further in view of U.S. Patent No. 5,538,517 to *Samain et al.* ("*Samain*"). Applicants respectfully traverse this rejection as well.

The Examiner relies on the *Samain* reference for its teachings of "dyeing compositions comprising enzymatic system[s] as oxidizing agents." *Office Action*, p. 6. He indicates that the alleged combination would have been obvious because "a person of ordinary skill in the art would expect [these] compositions to have similar properties to those claimed [in the present invention], absent unexpected results." *Id.*

Applicants contend, however, that the Examiner has set forth no evidence demonstrating that one skilled in the art would expect similar properties from the cited references claimed compositions. Rather, as discussed *infra*, it is known in the art that hair dye chemistry is quite unpredictable. *THE SCIENCE OF HAIR CARE*, at 271-72 (Charles Zviak ed., 1986). Thus, the mere addition or substitution of a known dye ingredient would not have automatically resulting in a workable hair dye.

In fact, the cited references neither explicitly nor even implicitly suggest that a reasonable expectation of success would have existed in the proposed combination.

The oxidizing agents used in *Lagrange*, *de la Mettrie* '195, and *de la Mettrie* '295 include, for example, urea peroxide, alkali metal bromates or ferricyanides, and hydrogen peroxide. See e.g., *de la Mettrie* '195, col. 8, lines 25-29. None of the references suggest that an enzymatic oxidizing system can be used with their respective hair dye systems. Although *de la Mettrie*'s thickener in hydrogen peroxide results in a successful hair dye system, there is absolutely no evidence that similar results could be obtained using an enzymatic system. Accordingly, Applicants respectfully submit that the Examiner has set forth no evidence supporting this alleged combination. Until such evidence is shown, Applicants have no duty to provide any evidence of "expected results," contrary to the allegations of the Examiner.

Further, *Samain* discloses entirely different dyeing ingredients than both *Lagrange* and *de la Mettrie* '195; thus, the Examiner's alleged combination is even more implausible. *Samain* teaches compositions comprising indole or indoline derivatives, hydrogen peroxide and peroxidase enzyme. *Samain*, col. 1, lines 7-10. The only thread of commonality among the *Samain* reference and *Lagrange* and *de la Mettrie* '195 references is a teaching of oxidation dyeing compositions. Such a broad teaching, however, cannot sustain this rejection. Accordingly, Applicants respectfully request that the Examiner withdraw this improper rejection as well.

#### IV. Conclusion

In view of the foregoing amendments and remarks, Applicants respectfully request reconsideration and reexamination of the pending claims.

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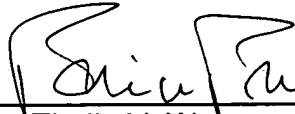
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Respectfully submitted,

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